

Application No. 09/543,622

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A solar collector comprising:
 - a curved glass mirror comprising a single, continuous, curved surface;
 - a front sheet;
 - a core comprising a core material selected from the group consisting of a honeycomb structure, a foam selected from the group consisting of polystyrene, polyurethane, and polyvinyl chloride, and a cellulose based material; and
 - a back sheet having a thermal expansion coefficient similar to that of said front sheet;wherein a back of said mirror is affixed to said front sheet; said front sheet is affixed to said core; and said core is affixed to said back sheet.
2. (previously presented) The solar collector of claim 1 further comprising a sealing strip positioned between said glass mirror and said front sheet.
3. (original) The solar collector of claim 1 wherein said sealing strip comprises EPDM.
4. (original) The solar collector of claim 1 wherein said glass mirror comprises a silvered backing.
5. (original) The solar collector of claim 1 wherein said front sheet and back sheet comprise carbon steel.
6. (original) The solar collector of claim 5 wherein said carbon steel front sheet and carbon steel back sheet comprise a gauge between approximately 24 and 28 gauge.

Application No. 09/543,622

7. (original) The solar collector of claim 1 wherein said core material comprises a honeycomb structure.

8. (original) The solar collector of claim 7 wherein said honeycomb core material comprises aluminum.

9. (original) The solar collector of claim 8 wherein said aluminum honeycomb core material comprises aluminum foil between approximately 0.015 and 0.004 inch foil.

10. (original) The solar collector of claim 1 wherein said core material comprises foam selected from the group consisting of polystyrene, polyurethane, and polyvinyl chloride.

11. (original) The solar collector of claim 1 wherein said core material comprises a cellulose based material.

Application No. 09/543,622

12. (currently amended) A method of making a solar collector comprising the following steps:

- a) affixing a glass mirror comprising a single, continuous, curved surface to a front sheet to make a glass/sheet laminate;
- b) affixing the sheet side of the laminate to a surface of a core material selected from the group consisting of a honeycomb structure, a foam selected from the group consisting of polystyrene, polyurethane, and polyvinyl chloride, and a cellulose based material;
- c) affixing a back sheet to an opposite surface of the core material to make a composite panel;
- d) shaping the composite panel to a specific curvature by curing, under pressure, the composite panel over a mandrel of approximately inverse curvature;
- (e) removing the composite panel from the mandrel and retaining the mirror, the front sheet, the core material, and the back sheet intact as a stacked structure.

13. (original) The method of claim 12 further comprising the step of positioning a sealing strip between the glass mirror and front sheet to minimize the accumulation of moisture between the glass mirror and front sheet.

14. (previously presented) The method of claim 12 further comprising the step of stacking a plurality of the composite panels atop each other and atop a single, one-sided mandrel to allow simultaneous construction of solar collectors.

15. (original) The method of claim 12 further comprising the step of applying a vacuum to the composite panel in contact with the mandrel.

16. (original) The method of claim 14 further comprising the step of applying a vacuum to the composite panel in contact with the mandrel.

Application No. 09/543,622

17. (original) The method of claim 13 wherein the sealing strip comprises EPDM.
18. (original) The method of claim 12 wherein the glass mirror comprises a silvered backing.
19. (original) The method of claim 12 wherein the front sheet and back sheet comprise carbon steel.
20. (original) The method of claim 19 wherein the carbon steel front sheet and carbon steel back sheet comprise a gauge between approximately 24 and 28 gauge.
21. (original) The method of claim 12 wherein the core material comprises a honeycomb structure.
22. (original) The method of claim 21 wherein the honeycomb structure comprises aluminum.
23. (original) The method of claim 22 wherein said aluminum honeycomb structure comprises aluminum foil between approximately 0.015 and 0.004 inch foil.
24. (original) The method of claim 12 further comprising the step of stacking a plurality of the composite panels above and below a single, double-sided mandrel to allow simultaneous construction of solar collectors.

Application No. 09/543,622

25. (currently amended) A method of making a solar collector comprising the following steps:
- a) affixing a glass mirror comprising a single, continuous surface to a front sheet to make a glass/sheet laminate;
 - b) placing the glass/sheet laminate mirror side down over a mandrel of specific curvature;
 - c) applying a coating of an expandable foam selected from the group consisting of polystyrene, polyurethane, and polyvinyl chloride on the sheet side of the laminate;
 - d) positioning a back sheet in a frame such that as the foam expands the foam comes in contact with a surface of the back sheet, and forces the coated laminate to adopt the inverse shape of the mandrel thus forming a composite panel; and
 - e) removing the frame from the back sheet and the composite panel from the mandrel[,] and retaining the mirror, the front sheet, the coating expandable foam, and the back sheet intact as a stacked structure.
26. (canceled)
27. (original) The method of claim 25 wherein the glass mirror comprises a silvered backing.
28. (original) The method of claim 25 wherein the front sheet and back sheet comprise carbon steel.
29. (original) The method of claim 25 wherein the carbon steel front sheet and carbon steel back sheet comprise a gauge between approximately 24 and 28 gauge.